

Acceptability and Intended Usage Preferences for Six HIV Testing Options among Internet-using MSM

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Outline

- Background & relevance
- Specific objectives
- Study design & data collection
- Analytical methods
- Study results
- Strengths & limitations
- Targeted prevention implications

Background & Relevance

Background & Relevance

- Men who have sex with men (MSM) ~ 4% of the US adult male population¹
- Rate of new HIV diagnoses in this group ~ 44 times that of other men¹
- Youngest MSM (13-24 years) continue to be disproportionately affected²
 - 22% increase in the number of new infections from 7,200 in 2008 to 8,800 in 2010

MSM & HIV

Centers for Disease Control & Prevention (CDC) estimated that 47,500 incident HIV infections occurred in 2010²

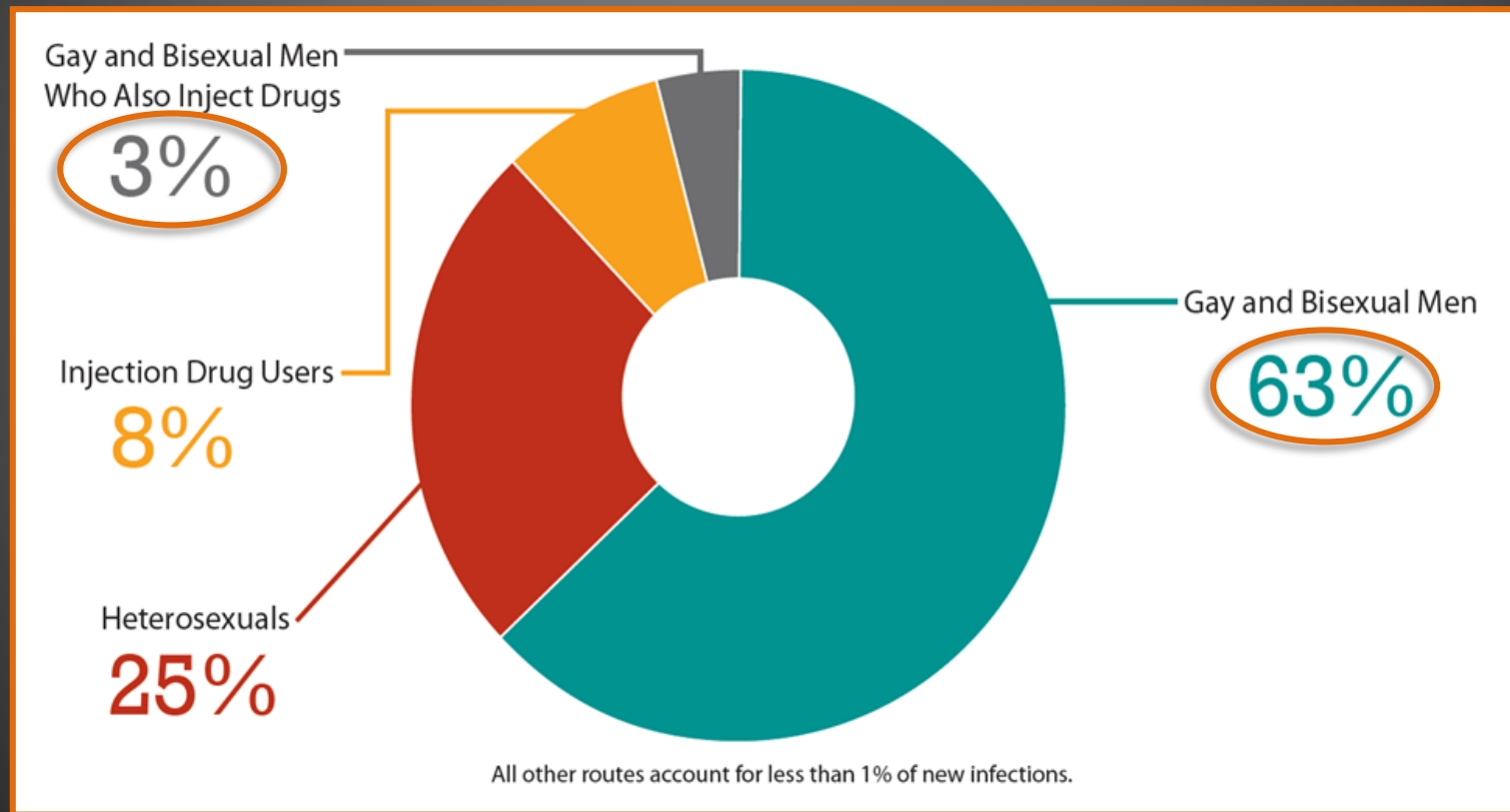
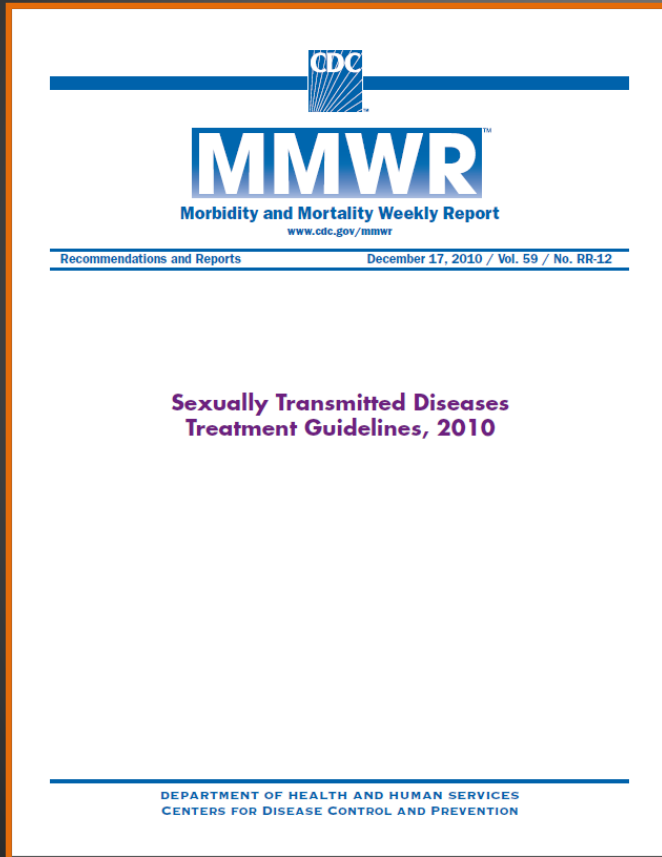


Image source: http://www.cdc.gov/hiv/pdf/HIV_infographic_11X17_HR.pdf

Testing is Critical!

- Important prevention activity
 - Knowledge of positive serostatus shown to reduce high risk sexual behavior³
 - Unprotected anal intercourse (UAI)
 - First step in developing client-specific recommendations⁴
 - Condom use
 - Pre-exposure prophylaxis (PrEP)
- Gateway to early engagement in care⁵

CDC Recommendations



- Sexually active MSM should be tested for HIV at least once a year
- MSM who have multiple or anonymous sex partners or use illicit drugs concurrent with sexual activity should be screened for STIs at 3-6 month intervals

Need to Promote Testing

- 2011 NHBS estimates (20 US cities)
 - 8% of ~ 7,310 self-reported HIV-negative or unknown status MSM had never been tested & 24% last tested > 1 year ago⁶
 - 34% of ~ 1,560 MSM who tested HIV-positive reported being unaware of their infection⁷
- National HIV/AIDS Strategy⁸
 - Scale up testing efforts to increase the proportion of PLWH who know their status

TESTING MENU

- Testing at a physician's office
- Individual voluntary counseling & testing (VCT)
- Home dried blood spot (DBS) self-collection for lab testing
- Rapid home self-testing with an oral fluid test
- Couples' HIV counseling & testing (CHCT)
- Expedited/express testing

Specific Objectives

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1. Determine the acceptability of six different HIV testing approaches presented collectively to internet-using MSM when hypothetically offered free of charge
2. Identify which testing options rank higher than others in terms of intended usage preference – overall & within selected demographic & behavioral strata

Study Design & Data Collection

Study Design & Data Collection

- MSM recruited online through Facebook in October & November 2012
- Eligibility criteria
 - Reportedly male ≥ 18 years
 - Residing within US at time of study
 - Having ≥ 1 male sex partner in past 6 months
- Eligible men completed a voluntary internet-based survey hosted on SurveyGizmo

Survey Measures

- Non-positives given brief descriptions of six options followed by questions on likelihood of using each if provided free
- Responses as 5-point Likert item
 - Extremely unlikely, Somewhat unlikely, Neutral, Somewhat likely, Extremely likely
- Order approaches from most likely to use to least likely to use
 - Assigned ranks 1 through 6

Analytical Methods

Analytical Methods

- Demographic, behavioral & HIV testing characteristics summarized
- Medians & means of data on acceptability
 - Age, race/ethnicity, education, HIV testing history, relationship status, history of UAI in past 6 months
- Kruskal-Wallis nonparametric ANOVA
 - Does stated likelihood of using a particular option differ across strata of selected characteristics?

Analytical Methods

- Multiple comparisons adjustment
 - 36 independent Kruskal-Wallis tests planned
 - Šidák correction to derive stringent test-wise α
 - Each considered statistically significant only if associated $P < 0.001$
- Modified Borda count to identify consensual ranking orders
 - Overall & stratified by HIV testing history, relationship status, history of UAI in past 6 months

Study Results

Analytic Sample

432,632 advertising impressions resulted in 4,638 click-throughs in 10 days



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graph TD; A[432,632 advertising impressions resulted in 4,638 click-throughs in 10 days] --> B[1,739 (38% of click-throughs) consented & asked eligibility questions]; B --> C[1,285 (74% of respondents to eligibility questions) met inclusion criteria & began survey]; C --> D[1,204 (94% of beginners) reported not being HIV positive & asked questions on acceptability]; D --> E[973 (81% of non-positives) answered ≥ 1 of 6 acceptability questions & analyzed];
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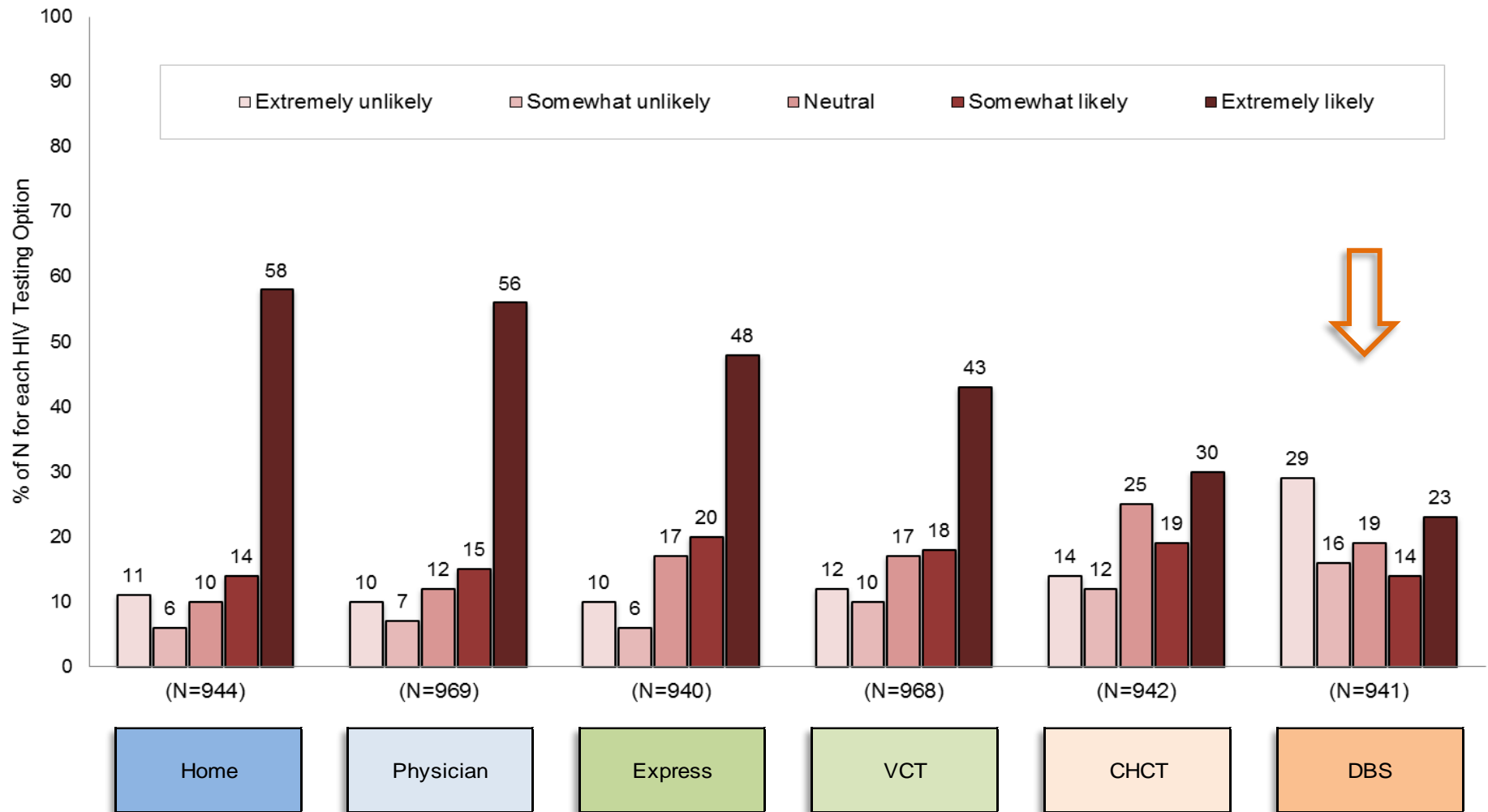
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Baseline Characteristics

- Age (years): Mean = 31, Median = 26
- Race: 77% non-Hispanic white
- Education: 79% some college or higher
- Main partner: 38% for ≥ 1 year
- UAI in past 6 months: 20% with ≥ 2 men
- HIV testing history
 - Never been tested: 16%
 - Last tested > 1 year ago: 35%

Stated Usage Likelihood



Stratified Results

Expedited / express testing		VCT	
Age group (years)	Median (Mean)*	Race/Ethnicity	Median (Mean)*
18-24	4 (4.0)	White, non-Hispanic	4 (3.6)
25-34	5 (4.1)	Black, non-Hispanic	3 (3.2)
35-44	4 (3.8)	Hispanic	5 (3.9)
≥ 45	4 (3.5)	Other	5 (4.1)

CHCT	
Education	Median (Mean)*
College, Post graduate, or Professional school	3 (3.2)
Some college, Associate's degree, and/or Technical school	4 (3.5)
High school, GED or less	4 (3.6)

* 1=Extremely unlikely, 2=Somewhat unlikely, 3=Neutral, 4=Somewhat likely, 5=Extremely likely
Kruskal-Wallis nonparametric ANOVA for each of these three tests was significant ($P < 0.001$)

Intended Usage Preferences

Ranking	Overall preferences	Stratified by demographic and behavioral characteristics							
		HIV testing history		Had a main partner			Had unprotected anal intercourse with a male sex partner in the past 6 months		
		Never tested	Tested at least once	Yes, for ≥ 1 year	Yes, for < 1 year	No	Yes, with ≥ 2 men	Yes, with 1 man	No
1	Home	Home	Physician	Home	Physician	Home	Home	Physician	Physician
2	Physician	Physician	Home	Physician	Home	Physician	Physician	Home	Home
3	Express	Express	Express	Express	Express	Express	Express	Express	Express
4	VCT	DBS	VCT	VCT	VCT	VCT	VCT	VCT	VCT
5	DBS	VCT	DBS	DBS	CHCT	DBS	DBS	CHCT	DBS
6	CHCT	CHCT	CHCT	CHCT	DBS	CHCT	CHCT	DBS	CHCT

Home Rapid home self-testing: Oral fluid

Physician Testing at a physician's office

Express Expedited/Express testing

VCT Individual voluntary counseling and testing

DBS Home specimen self-collection: Dried blood spot

CHCT Couples' HIV counseling and testing

Strengths & Limitations

STRENGTHS	LIMITATIONS
Examined six HIV testing approaches collectively rather than in isolation	Results cannot be generalized to all MSM (Facebook, other sites, general US population)
Online recruitment helped reach large numbers cost-effectively & quickly	Underrepresented MSM who did not disclose their interest in men on Facebook
Online data collection helped reduce possibility of social desirability bias	Unable to verify self-reported demographic characteristics of participants

Targeted Prevention Implications

Qualitative Feedback

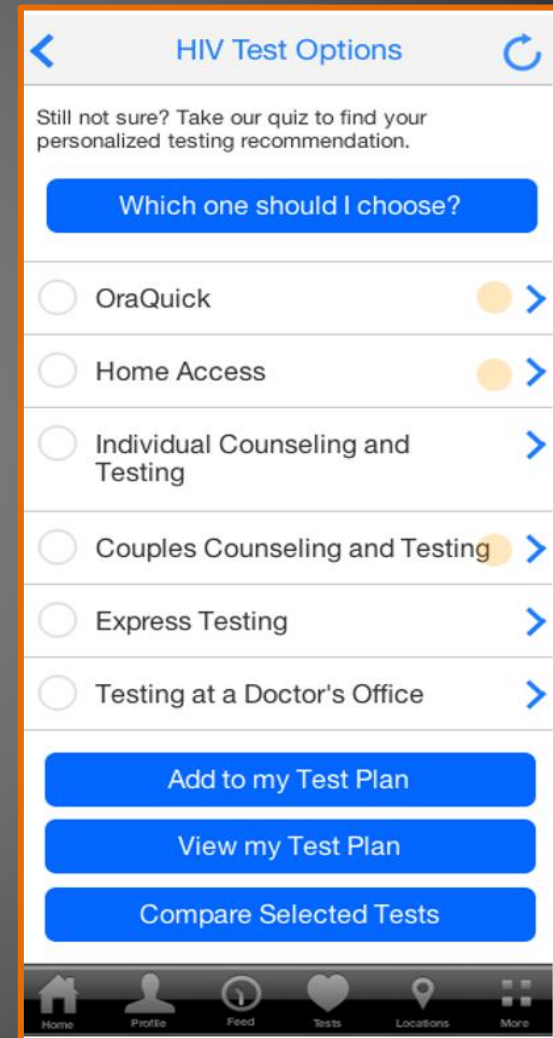
High rank	<div>Home</div> <p>“easy, fast, confidential”; “can deal with the result on your own before facing others”</p>	<div>Physician</div> <p>“like that it's covered by insurance”; “have a good relationship with my doctor”</p>
Intermediate rank	<div>Express</div> <p>“quick and easy, but I wouldn't want this to be my exclusive means of testing”</p>	<div>VCT</div> <p>“personal interaction, emotional support”; “extreme anxiety over going to a center”</p>
Low rank	<div>DBS</div> <p>“feel uneasy mailing a body fluid”; “I'm turned off by the waiting period”</p>	<div>CHCT</div> <p>“takes away the confidential part of testing, could lead to being ‘outed’ as positive”</p>

Targeted Prevention Implications

- High overall acceptability is encouraging
- Online negotiations of high-risk & safe sex prevalent among MSM^{9,10}
- Results demonstrate potential for combining multiple HIV testing options as part of comprehensive packages
 - Could enable MSM in putting together annual personalized testing strategies

Targeted Prevention Implications

- “Physician’s testing, Express testing and VCT, mostly depending on convenience and money”
- “Maybe do two home tests, and one test in a clinic”



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 - KnowAtHome
 - iTestAtHome
- Emory University Department of Epidemiology

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Thank you!

Questions/Comments/Suggestions?
